

EAST LAKE FIRE & RESCUE

WELLNESS PROGRAM

STRATEGIC MANAGEMENT OF CHANGE

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ABSTRACT

The third edition of N.F.P.A. 1500 Standard on Fire Department Occupational Safety and Health was recently published in August of 1997. A new standard on wellness programs was included in the Standard. The problem is that East Lake Fire & Rescue (ELFR) did not have a wellness program. The purpose of this Applied Research Project was to formulate a method of implementing a wellness program to meet the new standard. This project utilized evaluative and action research methodologies to answer the following questions:

1. What are the components of a comprehensive health and wellness program for firefighters?
2. Are the members of East Lake Fire & Rescue interested in participating in a wellness program?
3. Should a wellness program be voluntary or mandatory?
4. Are there injuries associated with a wellness program?
5. What are the costs associated with implementing a health and wellness program?

The procedures employed included a literature review of current fire service technical journals and books. A survey of the members within the department was administered to determine the interest in participating in a wellness program. Two different comprehensive wellness programs were evaluated, as well as three complete fitness programs. Data from medical examinations and fitness evaluations conducted on the members of ELFR were reviewed and evaluated.

The results of the survey clearly indicated that the members of ELFR were interested in health and fitness.

The Fire Service Joint Labor/Management Wellness/Fitness Initiative, created by leaders of the Fire Service, will be a cost-effective solution to health and fitness issues if used in conjunction with Pearson's Comprehensive Wellness for Firefighter Program.

The fitness program at the Y.M.C.A. was chosen by the members of ELFR. Results of this program, indicated members of the department are stronger and more flexible, but still need to improve nutritionally.

Implementation of The Fire Service Joint Labor/Management Wellness/Fitness Initiative and purchase of Pearson's program are recommended to be administered by the fitness coordinator of ELFR. Top-down support and participation are essential for success of the program. It is further recommended to add a financial incentive for excellent ratings, before the next annual assessment.



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INTRODUCTION

Firefighting is one of the most hazardous occupations in the United States. Annually, nearly one hundred firefighters are killed in the line of duty. One-half of these deaths are caused by heart attacks. “The number of firefighter fatalities has continued to decline since the development of the first edition of NFPA 1500 Standard on Fire Department Occupational Safety and Health Program in 1987” (NFPA, 1997, p.1). The third edition of the standard was recently published in August of 1997. The problem is that East Lake Fire & Rescue does not have a comprehensive health and wellness program, and therefore is not in compliance with the new standard on Wellness Programs.

The purpose of this Applied Research Project was to research and formulate a method of implementation of a comprehensive health and wellness program for East Lake Fire & Rescue that would comply with the new standard.

Evaluative and action research methodologies were used in the Applied Research Project. The research questions to be answered are:

1. What are the components of a comprehensive health and wellness program for firefighters?
2. Are the members of East Lake Fire & Rescue interested in participating in a wellness program?
3. Should a wellness program be voluntary or mandatory?
4. Are there injuries associated with a wellness program?
5. What are the costs associated with implementing a health and wellness program?

BACKGROUND AND SIGNIFICANCE

In 1987, the NFPA 1500 Standard on Fire Department Occupational Safety and Health Program was established to provide safety and health programs uniformly throughout the fire service. Although, the standard was complete and innovative, it was resisted by many in the fire service . “Many in the fire department thought it was too much change, too radical an approach to firefighter safety while demanding changes that were too expensive, not practical, too detailed or too futuristic” (Childress, 1998, p. 1).

Prior to this time, there were no set standards for the physical well being of firefighters. Over the years, NFPA 1500 has continued to develop guidelines and heightened the awareness for health and safety in the fire service. On October 5, 1990, East Lake Fire & Rescue established a safety committee within the department. A priority for this committee was to review the department’s compliance with NFPA 1500. The fire department was in 62% compliance with the standard when reviewed by the safety committee in 1990.

In 1992, the second revision of the NFPA 1500 standard was published. A review of the revised edition revealed the department to be in 80% compliance. On October 18, 1995, a proposal was presented to the ELFR Board of Commissioners to officially adopt the NFPA 1500 standard.

In 1997, the third revised edition of the NFPA 1500 was completed. With a review of the updated standard, ELFR is at an 88% compliance as of January, 1998. Section 9-2.1 of this standard addresses a Wellness Program for fire service members. In order to comply with this component of the Wellness Program, the safety committee requested a subcommittee be formed in order to review the

standard and to formulate an implementation for this program.

The Wellness and Fitness subcommittee consisted of representatives from management and labor. This researcher volunteered, as part of management, to chair the subcommittee for Wellness and Fitness program. The research, involved as chair of the subcommittee to evaluate and implement a health and wellness program for ELFR, satisfies the applied research project requirement associated with the Executive Fire Officer Program at the National Fire Academy.

The research related to The Change Management Model of the Strategic Management of Change Course. "The purpose of this module is to introduce a model which will enable you and your organization to effectively address change by identifying where you want to go, determining how to get there, measuring your progress, and recognizing you have arrived" (National Fire Academy, 1996, p. 2-3).

LITERATURE REVIEW

The purpose of this literature review is to establish a foundation for this applied research project. This included an assessment of the National Fire Protection Association's (NFPA) 1500, Standard on Fire Department Occupational Safety and Health Program.

The intent of NFPA 1500 was to provide the frame work for a safety and health program addressing the needs of the fire service. In terms of work-related deaths and injuries, fire fighting has been recognized as the most hazardous occupation in North America (NFPA, 1992, p. 1). With these statistics in mind, the NFPA 1500 standard was created to provide guidelines for a comprehensive safety and health program in addition to providing for its implementation and management.

Prior to the NFPA 1500 document, no consensus standards for occupational safety and health existed in the fire service. The third edition of the standard was recently approved in August of 1997. It is much larger than the previous editions; containing eleven chapters as well as three appendixes and is a total of 66 pages in length. The document was expanded to provide additional information in all areas of firefighter health and safety.

One of the new standards is on wellness programs. NFPA 1500 (1997) states in section: 9-2.1 The wellness program shall provide health promotion activities that identify physical and mental health risk factors and shall provide education and counseling for the purpose of preventing health problems and enhancing overall well-being” (NFPA, 1997, p.22).

Wellness Program

What is.....Wellness? Wellness is a holistic approach to life, practiced by those who believe that attention to all aspects of one's life creates a wholeness that is more than just exercising and eating tofu, since the physical component of one's life is just a part of the whole..... Wellness involves attending to the other components.....of one's life as well, including spiritual welfare, emotional well-being, and intellectual health. Integrating all of these aspects is the goal of a wellness-oriented lifestyle....and a sure way to spice up your life! (Potsdam, 1997, p. 2).

There are nine major components of wellness essential for total health. These are basic guidelines that every department needs in order to implement health promotion programs and allow every emergency worker to take charge of their own fitness and health.

1-Nutrition is not just a concern for people who are underweight or overweight. "Five of the ten leading causes of death are diet-related. Employees who make wise food choices that meet their nutritional needs do a better job preparing their bodies to handle the daily stress of living and work" (Sherman, 1990, p.40).

2-Hypertension is a disease. It does not hurt. It does not make you feel sick. Unless you check it, years may go by before you even realize you have a problem.

Screening has detected millions of people in the United States with high blood pressure.

Known as the 'silent killer', hypertension (high blood pressure) claims more victims each year.

High blood pressure is linked with a higher incidence of illness and death. Although

hypertension usually does not manifest symptoms, detecting the disease is easy and relatively inexpensive (Sherman, 1990, p.43).

3-Stress Management-When stress is poorly managed, it can cause serious sickness. It can also have major consequences on a person's ability to function at work. Physical exercise is one of the best ways to relieve stress. "When a person takes part in physical activity, the body metabolizes excess catecholamines and is able to return to a normal state" (Hafen, 1994, p.249).

4-A Comprehensive Fitness Program-Our bodies wear out faster from disease than from use, yet when it comes to aerobic exercise, most workers say no to running, walking, swimming, or other strenuous activity. "The Centers for Disease Control report that only eight percent of adults age 18-65 participate in recommended vigorous 20-minute exercise three times a week" (Sherman,1990, p.46).

Aerobic fitness is however, only one component of the total fitness required for emergency personnel.

There are a number of physical attributes required for successful fire fighting. These include better than average strength, muscular power, aerobic endurance and physiologic adaptation to heat stress. A comprehensive fitness program attempts to develop all of these different physical attributes in a balanced and integrated manner. In addition, a number of health and injury related concerns would suggest that a duty related program should also include activity appropriate for the prevention of heart disease as well as activities to minimize the likelihood of musculoskeletal injury, particularly of the back. Programs which consist of merely playing sports, or simply lifting weights, can only address a few of these areas. A comprehensive program will aim to

develop all of these attributes in the course of physical training (Shaffrath, 1994, p. 16).

A physical fitness program is developed within the broad spectrum of health. A comprehensive program must give at least passing attention to larger health issues. Exercise is not a substitute for preventive health care.

A comprehensive program recognizes this and incorporates attention to health issues as they relate to exercise. Much of this can be done in the preliminary medical screening for the program, and in ongoing inservice presentations on topics related to exercise, health, and wellness (Shaffrath, 1994, p.16).

5-Smoking Cessation-"Smoking accounts for 30% of all cancer deaths and is the single most preventable cause of death and illness in the United States" (Behnke, 1995, p.28).

6-Alcohol and Drug Prevention-An Employee Assistance Program can give assistance to employees by offering informational seminars on alcohol and drug awareness. Some employees may be more responsive to information if they attend a small group session where they can discuss their concerns. (Sherman, 1990, p.52).

7-Weight Control-The excessive accumulation of body fat is one of the most important risk factors for the development of cardiovascular disease. Doctors at the University of Washington found that dieting makes your body think that it's starving, so it slows down to save energy. And even when the diet's over, body metabolism never returns to normal because the body stores fat more efficiently. The ironic result is that chronic dieters often have the hardest time losing weight! (Sherman, 1990, p.54).

8- Safety and Accident Prevention- "Thousands of on-the-job employee deaths and millions of disabling injuries occur every year. The work that is being performed, or the workplace itself, often creates many health and safety hazards"(Sherman, 1990, p.56).

9-Employee Assistance Programs (EAPs)- "Unlike wellness programs with a preventive approach, EAPs are considered a health promotion essential because they address existing problems. EAPs are designed to provide professional and confidential help to workers whose job performance may be affected by personal problems" (Sherman, 1990, p.62).

Labor Management Program

The wellness program will benefit all members of a department, not just suppression personnel. "Ideally, the wellness program shouldn't target just suppression and rescue personnel. Anyone can get heart disease or low back pain, and administrative responsibilities are no defense against stress or substance abuse" (Pearson, 1994, p.46).

Dezelan stated in Fire Chief magazine how the fire service leaders established and implemented fitness and wellness program for their respective departments. "In December, fire chiefs and fire service labor leaders from ten North American fire departments met in Phoenix to begin an unprecedented initiative to develop physical fitness and wellness programs for firefighters" (Dezelan, 1997, p.56).

It is the cooperative effort between the International Association of Fire Chiefs (IAFC) and the International Association of Fire Fighters (IAFF), and the fire chiefs and labor representatives of 10 municipal fire departments around the United States and Canada that have mandated member

participation in this program (“A Cooperative Approach,” 1998, p. 53).

Dezelan further reports in his article the intent of this symposium. “The hope of the group was that the 10 departments involved would act as wellness/fitness ‘hubs’ from which other fire departments could derive information about program development” (Dezelan, 1997, p.56). “The 10 sets of labor leaders and chiefs identified wellness areas that they felt were important for firefighter health, including periodic comprehensive medical exams, vaccinations, an individualized health risk appraisal and follow-up procedures that included referral to primary-care physicians” (1997, p.56).

An article in Fire Engineering Magazine, January, 1998, outlined the components of the Initiative.

The Fire Service Joint Labor/Management Wellness/Fitness Initiative is a response to concerns about firefighters health. The high stress, intense physical demands, and long-term exposure to chemicals and infectious disease associated with firefighting contributes to heart disease, lung disease, and cancer, the three leading causes of firefighter death and occupational disease disability. The nonpunitive Initiative encompasses medical, fitness, injury rehabilitation, behavioral health and data collection and reporting components (“A Cooperative Approach,” 1998, p. 53).

Implementation

When we speak of change, there is a need for leadership and not management. There must be commitment from the top down, or the process won’t work. There must also be an understanding that there needs to be a buy-in at all levels. (Bruegman, 1997).

Lepere (1997) states, “First and foremost, you will need total management support for your

program. The department head must believe in and sanction the program, as well as provide financial support” (p. 54). Lepere goes on to explain that, “the key to a successful program will depend on middle management’s buy-in of the program. These are the supervisors who have daily contact with the firefighters and the ones who are in the best position to promote and evaluate the fitness program” (p. 54).

Once management has agreed on the value of a wellness program, and is willing to financially support the concept, “A good starting point would be to identify a committee from within the organization. This committee should be representatives of the membership. The committee should identify an individual that serves as health-fitness coordinator” (Rubin, 1992, p. 34).

According to Paul O. Davis, Ph.D.(1995), “The physician is not the proper professional to manage a fitness program; he or she handles the medical component, and the fitness coordinator administers the basic program” (p. 23).

Voluntary vs Mandatory program

The intense physical demands involved in fighting fire, performing rescues, and delivering other emergency services have led to greater recognition of the fact that firefighters must be in top condition. There is no question as to the fact that a wellness program is necessary. The question is, however, “Whether these programs should be based on voluntary participation or whether participation should be mandatory for all personnel” (Goodson, 1994, p.19).

There are many fire departments throughout the nation that have mandatory physical fitness programs, where individuals have no choice but to participate. Yet, there are still many departments that

have not addressed this issue. "Actually selling your personnel on the fitness concept can be difficult. Furthermore, positive motivation, encouraging voluntary participation and continuing interest appears, on the surface, to be an impossibility" (Carlson, 1995, p.1).

According to Lauren Ostrow in Fire Rescue Magazine the Phoenix Fire Department is an exception in that they have achieved success with a fitness program that is voluntary. "'Our department's policy is that our people are self-motivated and self-disciplined,' explained equipment program manager Ron Shelton. Sometimes there is more of an adverse effect in making things mandatory" (Ostrow, 1997, p.91).

Goodson lists several reasons why many departments have not chosen to implement mandatory programs. "Those who control the purse strings may be reluctant to make the investment in exercise equipment for the stations or for the education and training of the firefighters" (Goodson, 1994, p. 21). Time is another factor. "Some chiefs are reluctant to provide on-duty time for exercise in fear of reducing workday efficiency and productivity" (Goodson, 1994, p. 21).

No matter what the proven benefits, there will always be some that refuse to conform. "The firefighters' union may also oppose a mandatory program because some mechanism must be built in to deal with those firefighters who cannot or will not meet the fitness standards adopted by the department" (Goodson, 1994, p. 21).

Some mandatory fitness programs are too militaristic, and when forced on the members of departments they are not accepted. "Members of the department will not accept forced standards that do not have the support of everyone involved, thus failure of the program. On the other hand, if the

program is not mandatory members will lose interest and not participate.” (Symons, 1996, p. 2).

Some attempts have been made to make fitness programs fun and enjoyable so that members will participate. But playing these games does not meet the same goals as a comprehensive wellness program.

Basketball, volleyball, and other sports are games designed only for fun and competition.

They are not useful for increasing or maintaining physical fitness. To derive the same cardiovascular benefit from 30 minutes of sustained jogging, biking or swimming you'd have to play several hours of these sports. Finally, sports are rather ineffective forms of cardiovascular exercise because your physical activity is not maintained steadily throughout the game (Hayford, 1996, p. 60).

Despite the disadvantages of programs being mandatory, it is the opinion of Goodson that “Only mandatory programs will work because the reality is that those who need to exercise the most, those in poor physical condition, are the ones who are least likely to participate in a voluntary program” (Goodson, 1994, p.21).

Employees are the department’s greatest asset. Just as time is allotted in every shift for checking and maintaining equipment, if a department is going to require participation in a mandatory fitness program, time must be allotted for compliance with the program. “Departments that are planning to institute mandatory physical fitness standards should seriously consider allowing on duty workout time before the consequences of the program take effect” (Pynes, 1996, p.240).

An additional consideration is availability of exercise equipment to personnel for use in the

program. “Departments committed to health and fitness should assist officers by making exercise resources available to them. Some departments may have on-site facilities; those that do not might consider negotiating group rate membership at local fitness clubs” (Pynes, 1996, p. 240).

Injuries

Exercise related injuries, are common in individuals who participate in exercise programs. “Surveys show that more than half of all exercise participants will incur injuries during the first 6 months of the conditioning program” (Hafen, 1994, p. 149). Unfortunately, no matter how careful people are, injuries do occur. “Most injuries involve soft tissue such as tendons, muscles, ligaments and cartilage. These injuries can, and often do, take a longer amount of time to heal, longer in fact than broken bones” (Margen, 1991, p. 379).

Ellyson describes that supervised physical fitness training can reduce injuries.

In discussing this subject with other chief officers, the consensus of opinion is that yes, there will be injuries in any physical fitness program. Is it still a viable idea to have mandatory physical fitness programs that are supervised on an individual basis? If firefighters can be supervised in a physical fitness program by professional physical therapists and doctors of sports medicine, then it may be possible to reduce the number and severity of injuries during a physical fitness program (1995, p. 22).

Properly performed exercises are less likely to cause major injuries. “It is better to have a mandatory, supervised, structured program as opposed to one that is left up to the individual and not enforced” (Ellyson, 1995, p.22).

A major component of the wellness program is a personalized exercise prescription. “The personalized exercise prescription should be a progressive plan that accounts for an individual’s level of fitness, job duties, time restrictions, physical capabilities, nutritional status and self improvement efforts” (International Association of Fire Fighters, 1997, p. 60).

According to documentation provided by Office Manager Loretta Rosende regarding the Workman’s Compensation Claims of East Lake Fire & Rescue, under the voluntary program in 1991, 71% of the workman’s compensation injuries were due to the physical fitness program. After limiting the sports activities, the injuries declined. In 1994, the department instituted mandatory physical fitness, but it was not strictly enforced; 37% of the workman’s comp injuries that year were due to the physical fitness program. In 1996 enforcement of the mandatory physical fitness program began, with injuries rising to 50%. In October of 1997, the program shifted to a structured, mandatory program that required one and one-half hours per shift for physical fitness to be performed under the supervision of the fitness specialist of the YMCA. In six months, this program has reduced injuries to 25% of the workman’s compensation claims, the lowest it has ever been. See APPENDIX A. (Rosende, personal communication, April 21, 1998)

Cost of a Wellness Program.

There are costs involved in the implementation of a wellness program. However, the financial benefits brought about by the increased health and fitness of the firefighters outweigh the costs of implementing and maintaining the program.

The costs associated with the development and implementation of a testing and fitness program

may initially seem prohibitive. These costs however, need to be balanced along side the expenditures that local governments make for disability retirements, worker's compensation claims, as well as the recruitment and training of new firefighters (Pynes, 1996, p.240).

The initial cost of the program can include the purchase of workout equipment, firefighter's fitness instructor training and compensation, the medical component of physical exams and other tests, renovation of existing space and equipment, and program development consultation (OSU Wellness Center Staff, 1998).

“For every \$1 invested in health promotion, organizations receive returns of \$3 or greater in increased productivity, decreased absenteeism and reduced medical claims...a 30-member team for example, could experience savings of up to \$15,000 a year” (Behnke, 1995, p.29).

Many large corporations, including AT&T Communications, Union Pacific Railroad, Dupont Chemical Company, and The Travelers Corporation report returns of \$1.50 - \$3.40 for every dollar invested in their wellness efforts (International Association of Fire Fighters, 1997).

In order to strive for excellence, those who exceed the minimum standards should be rewarded.

“In an ideal world, this would include financial incentives such as a small cash bonus (say \$250-500 around Christmas) or an additional small merit increase on top of any other regular increases (an amount equal to \$250-500 over a year)” (Davis, 1992, p. 26).

According to statistics of East Lake Fire & Rescue provided by Financial Administrator Robin Alves, the 1998 yearly budget is \$1,530,635 per year, with personnel costs making up 75% of the budget. The cost of the wellness program:

Y.M.C.A. Program.....	\$ 9,048
Physical/Firefighter.....	\$ 4,680
Stress Test/Firefighter.....	\$ 3,900
Employee Assistance Program.....	\$ 500
Total/Yearly Cost.....	\$18,128

The findings and observations of those in the literature review convinced this researcher that the fire service should address the needs of firefighters' total health and well-being. After reviewing numerous articles concerning firefighter health, physical fitness, and wellness it is clear that those who write articles in fire service periodicals agree, as does N.F.P.A., that firefighter health and fitness can be greatly improved through the development and utilization of a comprehensive health and wellness program.

PROCEDURES

Research Methodology

Two types of research methodologies were used for this applied research project: evaluative and action. The desired outcome of this research was to develop a comprehensive health and wellness program to be implemented for the members of East Lake Fire & Rescue, and assist other departments that need help in developing and implementing a wellness program. Compliance with the new 1997 N.F.P.A. 1500 standard on wellness programs is another goal that will be achieved through this action.

The evaluative aspect of the research began in December of 1996 with a literature review at the Learning Resource Center (LRC) located in the National Fire Academy (NFA). Additional review of literature was conducted in the library at East Lake Fire & Rescue using periodicals, magazines, and trade journals that were sources of background and technical information about health and wellness in the fire service. On-line research was also conducted using the Internet. The new 1997 N.F.P.A. 1500 standard was evaluated in order to compare compliance rate with the new standard.

The following physical fitness programs were evaluated for possible use for the members of ELFR:

(1) Biomedical Computer Systems, specialists in fire fighter fitness programs, Loren Myhae, PhD, 6311 Cypress Creek, San Antonio, Texas, 78239. An in-house program that can be purchased and administered by the Fitness Coordinator of ELFR.

(2) Regional Rehabilitation Services, Physical Therapy & Sports Medicine, Robert Corris,

M.A.,P.T., 34653 U.S. Hwy 19 North, Palm Harbor, Fl. 34684. An in-house program with a service contract, administered by an outside health/fitness specialist.

(3) Family Y.M.C.A. of North Pinellas, Executive Director Roger P. Jacobs, 4550 Village Center Drive, Palm Harbor, Fl. 34585. An outside facility administered and supervised by third party health/fitness specialist.

Evaluation was also done on two wellness programs designed for fire fighters:

(1) The Fire Service Joint Labor Management Wellness/Fitness Initiative, Department of Occupational Health and Safety, 1750 New York Avenue, NW, Washington, DC, 20006.

(2) Comprehensive Wellness for Fire Fighters, John Pearson, Summitt Fitness Services, P.O. Box 478 Blue Ridge, Summitt, PA 17214.

The goals of the action research were: (1) to determine what type of program the members of ELFR considered best for their group; (2) to increase the level of physical conditioning of the fire fighters of ELFR. See APPENDIX B and C, and (3) to revise the Standard Operating Procedures for physical fitness training at ELFR. See APPENDIX D.

A 12 question survey (See APPENDIX E) was developed and distributed to the members of ELFR, the purpose of which was to determine the opinions of the members of the department concerning: their present state of physical well-being, whether they were interested in participating in a wellness program, to assess the current program already in place at the department, and to determine what type of program should be implemented.

Limitations

The study was not a random survey. The survey was limited to the members of East Lake Fire & Rescue. It was assumed that all members that responded to the survey answered truthfully. Further, it was assumed that the members understood the questions in the survey. However, neither of these assumptions could be confirmed.

The information received from the department physician and the YMCA health specialist was limited due to confidentiality and was based on a wide area and not on an individual basis.

Definition of Terms

Fitness	A state of optimal physical well-being; having the energy and physical ability to maintain a desirable quality of life.
Health	Absence of illness; a person in excellent health is someone who is not sick, not requiring medical attention, and not dependent upon medications on a daily basis
I.A.F.F.	International Association of Fire Fighters. Union representation for approximately 80% of the full time paid fire fighters in the United States of America.
I.A.F.C.	International Association of Fire Chief- Professional organization for fire chiefs.
NFPA 1500	Fire Department Occupational Safety and Health Program: The intent of this standard is to provide the framework for a safety and health program for a fire department or any type of organization providing similar service.
Wellness	Any activity, behavior, or attitude that improves the quality of life, and enables daily functions to be performed with energy and interest.
Y.M.C.A.	Young Men's Christian Association

RESULTS

The answers to the research questions are as follows:

1. What are the components of a comprehensive health and wellness program for firefighters?

At the meeting in Phoenix in December, 1997, the ten core fire departments formulated the Fire Service Joint Labor Management Wellness/Fitness Initiative. The Initiative is an all-inclusive wellness program designed for firefighters. The subcommittee can use the Initiative to evaluate whether guidelines of compliance to the minimum recommendations have been met. The Comprehensive Wellness for Firefighters Program designed by Jon Pearson is another wellness program that was selected for purchase. In conjunction with the Initiative, this would be a comprehensive plan to assist fire and rescue departments in meeting a cost-effective solution to the health issue of promoting physical fitness and wellness for firefighters and emergency care providers.

The Comprehensive Wellness for Firefighters Program contains nine self-contained modules that can be presented as one integrated program, or as separate training activities. Each module is approximately two to three hours long and details such topics as: 1.) Cardiovascular Fitness; 2.) Muscular Fitness; 3.) Nutrition; 4.) Body Composition; 5.) Weight Control; 6.) Substance Abuse; 7.) Managing Stress (on and off the job); and 8. & 9.) Maintaining Wellness through Lifestyle Management.

2. Are the members of East Lake Fire & Rescue interested in participating in a wellness program?

The results of the survey of the membership of the department indicated that physical fitness for themselves and for fire fighters' job performance is important to them. They spend approximately seven and one half hours per week performing some type of exercise, with their opinion of their cardiovascular, strength, and flexibility levels at above average. The majority of the membership agreed that the former system of physical fitness did not meet their personal needs, and were interested in adopting a more comprehensive wellness/fitness program. (APPENDIX F)

3. Should a wellness program be voluntary or mandatory?

East Lake Fire & Rescue's union accepted a mandatory program by eighty-eight percent of the membership. The reason was because there was a mechanism built into the department's SOP 8-2.1, 8-2.4 and 8-2.5 (APPENDIX D) for those members not able to meet the standard. The subcommittee that had been formed from the Safety committee, decided to implement a new physical fitness program that would be a mandatory structured program. A majority of the personnel suggested that an outside facility be used and administered by a third party organization. Part of this new program mandates one and one-half hours per shift (APPENDIX D) to be used for workout time at the Y.M.C.A. This caused an increase of workout times that were better documented, and has increased the department's fitness, as outlined in APPENDIX A.

4. Are there injuries associated with a wellness program?

Research also concluded that under the voluntary program, when ELFR members were playing sports, they had a higher incident of injuries. Currently, under the Y.M.C.A.'s mandatory structured fitness program, the department's workman's compensation claims have significantly been reduced

(APPENDIX A). This is due to a personalized exercise prescription for each member that is supervised by fitness specialists at the Y.M.C.A. (APPENDIX D)

5. What are the costs associated with implementing a health and wellness program?

The costs of the wellness program include a monthly Y.M.C.A. fee, a yearly stress test and physical examination, and membership in the employee assistance program. The total cost is \$18,128, which is slightly over one percent of the annual budget for maintenance of the most valuable resources of the fire department, the firefighters.

As a result of the department's participation in this fitness and wellness program, part of cost for physicals has been absorbed by the department's health insurance carrier, which is a reduction in the total implementation cost of the wellness program. The total annual cost of the program is approximately one percent of the annual budget. This is an annual expense, but the benefits of the program to the members of ELFR will significantly outweigh the costs.

DISCUSSION

Change can come about from internal or external sources. In this case, change came about through of an external force. Firefighting is the most hazardous occupation in the United States. Many firefighter deaths and injuries each year are due to heart attacks because of the intense physical demands of the job. The result was a revision of NFPA 1500's new standard on health and wellness programs.

This Applied Research Project's purpose was to comply with this new standard. The ultimate goal, along with the rest of the fire service, was to develop change for the better health and wellness of our personnel. This is evidenced by the fact that fire service leaders, management and labor, were able to agree upon a Fire Service Joint Labor Management Wellness-Fitness Initiative so that the rest of the fire service would be able to follow their lead with the implementation of their program.

East Lake Fire & Rescue has been trying to improve fitness for some time. The concept of a comprehensive wellness program, although not new for the private sector, is new for ELFR. Since beginning this project, this researcher has found that some of the components of the Fire Service Joint Labor Management Wellness-Fitness Initiative are already in place at ELFR. The nutrition, stress management, and weight control components still must be added. This is evidenced by the fact that the department physician recognized in his assessment that members are stronger, but nutritionally, there needs to be improvement.

In the fitness assessment conducted by the physician and also by the health specialist, the improvement has been slight. This is due to the limited time of involvement in the new program, and also

due to sandbagging and lack of motivation to improve by some members. The members are already in better than average physical condition, there has been little motivation for excellence. It would be interesting to see if the recommended financial incentive for achieving excellent ratings in the categories will make a greater difference in the results of the annual assessment.

Due to research and development by other professionals in the area of health and fitness, the time and cost of developing and implementing a comprehensive fitness program is greatly reduced. With the purchase of Pearson's Comprehensive Wellness for Firefighter program, in conjunction with the Fire Service Joint Labor Management Wellness-Fitness Initiative , ELFR will have a cost effective, and complete program to enhance the health and well-being of its most valuable resource, the members of East Lake Fire & Rescue. This represents a developmental change for ELFR of the individual and group methods needed to take charge of and improve their fitness and overall well-being.

RECOMMENDATIONS

East Lake Fire & Rescue did not have a comprehensive health and wellness program, and therefore was not in compliance with the new NFPA 1500 Standard for fire fighter health and fitness. As a result of the research completed for this project, it is recommended that ELFR completely adopt the Fire Service Joint Labor Management Wellness-Fitness Initiative. The purchase and implementation of Pearson's Comprehensive Wellness for Firefighters Program is also recommended.

The program should be administered by the Fitness Coordinator of the Health & Fitness Committee of ELFR. The committee should have continued top-down support of all members of ELFR to further develop and improve the program. There should be continued evaluation and analysis of: (1) time spent on fitness compared to results; (2) percentage of injuries as a result of the program compared to workman's comp claims; (3) cost expenditures for continuation of the program; and (4) the results from the annual physicals by the department's physician, and the Y.M.C.A.'s fitness specialist.

It is further recommended to add a financial incentive before the next annual assessment for those members who achieve an excellent rating in the assessment areas.

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